

# America's Wizard of the Soil

By Robert H. Moulton

The most noted agricultural expert of this generation has been laboring for many years to show farm people how to raise crops scientifically

AT THE present time, when prices of all foodstuffs have reached the highest figures known in this country in a generation, it is interesting to consider the efforts of those who have labored long and unceasingly to improve our agricultural resources that this very condition should be avoided. Among these unselfish workers for the common good the figure of one man stands out conspicuously. This man is Professor Perry G. Holden, undoubtedly the most noted agricultural expert of our time.

A few years ago Professor Holden trebled the value of the corn crop in Iowa. A little later he put millions of dollars into the pockets of the farmers of Oregon, Washington and Idaho. As a final achievement, he induced the farmers of Arkansas to adopt a system of crop diversification which resulted in an increase of the wealth of the state of more than \$30,000,000 in a single year.

And Professor Holden says he has only started; that it is his ambition to do as much, or more, for every state in the Union, and the chances are he will accomplish his purpose, for he is today the leader in a movement for agricultural revival and rural uplift, which in its scope and significance, is without parallel in this or any other country. What is of equal importance, he is at the head of an organization with practically unlimited facilities for carrying on the work. During the last three years he and his assistants have co-operated in organizing and conducting fifty-five campaigns for agricultural education, have spoken at nearly 10,000 meetings, and in order to meet these engagements have traveled approximately 1,000,000 miles by railroad and over 250,000 miles by automobile, while their activities have reached the enormous total of 6,000,000 people.

Professor Holden has been described as the Burbank of the soil—the man who set King Corn upon its throne and crowned alfalfa queen. He has been called a missionary, a preacher, a philosopher, a prophet and a teacher—a professor in the university of the great outdoors. More than any other man he has set agricultural America to moving, and to moving in the right direction.

It was while professor of agronomy at the University of Illinois, from 1897 to 1901, that Professor Holden's work first attracted attention. Other men have allowed their energies and activities to be bounded by the four walls of the school-room, but to Holden such a thing was impossible. He looked upon corn culture as a source of prosperity and happiness to humanity. He had a vision of more generous fields, more golden harvests. He pictured big red barns, fine dairy cattle, happy homes.

But he beheld these things as possible only through the united efforts and intelligent co-operation of the people and organized the Corn Growers' association. He recognized the agricultural possibilities of the sugar beet, and the Sugar Beet Growers' association came into being.

Already he had done much for the farmers of Illinois, but he was not content. Men of achievement have little time for retrospection. He saw the need of improving the quality of the corn and organized both the Corn Growers' association and America's first corn-judging school. He placed corn upon a higher education plane than Latin and Greek, organized the Illinois club for the dissemination of agricultural knowledge among young men, and revived and broadened the farmers' institutes of the state.

Then the Iowa State college beckoned him. As professor of agronomy and as director of the agricultural extension department of that institution he continued the work he began in Illinois. He did more. He "beat his own record," which is a motto he has held before him since he was a boy in a little country school house in the backwoods of Michigan.

He inaugurated a better-corn campaign that is unique and majestic in the history of agriculture. He shattered all traditions of extension work by refusing to rely upon bulletins and other printed matter to carry his message to the people. He went in person to the farmers at their homes and taught them by word of mouth. He inoculated commerce and transportation with the bacteria of more and better corn and set a precedent for every state of the Union by conducting the first railway train ever run for the purpose of spreading the gospel of profitable farming.

"Add what would equal a three-ounce nubbin to a hill," he said, "and the gain will be ten bushels to the acre. About nine million acres are planted to corn in Iowa each year. That little nubbin more in each hill will mean an increase of ninety million bushels."

In 1912, after Professor Holden had talked and demonstrated and labored for ten years, the nubbin was added to the hill. The total increase in the yield that year was 98,914,557 bushels, which at 30 cents a bushel, the average price of corn that year, meant that the market value of this yield increase was \$29,674,367.

All Iowa was proud of Holden, but Holden's fame spread far beyond the borders of the state. He became a prominent figure in national progress.

There were those who refused to believe that Holden's activities should be confined to even one nation, so he was placed at the head of a mighty



TYPICAL MEETING AT A FARM HOUSE



PRACTICAL PORK TALK



TESTING SOIL FOR ALFALFA

agricultural extension department, with headquarters in Chicago, organized for world-wide teaching of agriculture. After a period of great work in Illinois, and even greater work in Iowa, Professor Holden entered upon the world's work.

But first there was more work to do at home, and Professor Holden was not long in deciding where to turn first. He had long known that the agricultural problem of the Northwest was the one-crop system. Great tracts of land had been seeded to wheat year after year until the soil was becoming worn out—robbed of the elements necessary for the growth of plant life. He decided at once that the remedy was the growing of alfalfa, that wonderful plant which is not only a money-making crop in itself, but possesses the magic power of putting nitrogen and organic matter into the soil. Thereupon Professor Holden organized the inland empire campaign, and, in co-operation with six great railroad systems of the Northwest, started the campaign for alfalfa on every farm.

While the agricultural demonstration train inaugurated by Professor Holden in Iowa was a mighty step forward, he believed there was a still better way of reaching the farmers. At last he hit upon it; the automobile in conjunction with the railroad train. The farmer could come to the towns where the trains stopped, and thousands of them did, but in many instances this meant a long trip to and from the meeting places and perhaps a whole day's absence from work. The thing to do, then, was to go to the farmer, to meet him in the fields, on his own threshold. It was planned, therefore, that at every place where the alfalfa special stopped automobiles should meet it and whirl the speakers to prearranged meeting places: in schoolhouses, churches, town halls, theaters, barns, out in the open fields, by the roadside.

When a meeting was held in an alfalfa field there was no question of its success, as many good lessons were easily driven home by illustrations from the growing crops. In the fields, too, the lessons of inoculation, use of lime, eradication of weeds and time of cutting, could all be very plainly illustrated. To supplement this work the speakers used huge charts which told some interesting stories in a manner that was indisputable. The big comparative figures shown on the charts gave every farmer plenty of food for thought. The results of various tests showed that alfalfa, whether alone or in combination with other feeds, was far and away the best food for the production of pork, beef, dairy products and eggs.

One of Professor Holden's strong points was that alfalfa was not a land reclaimer. He declared that once it is given a chance it will refuse to be kept off of land that is now considered practically valueless. Alfalfa is known to put back into the soil what other crops take out. By a peculiar process, the nodules that form on the roots of the plant extract nitrogen from the air and deposit it in the soil. And nitrogen is what other crops need.

The regular schedule of the alfalfa special included from six to eight stops a day, thus allowing for from 60 to 120 meetings, according to the number of speakers employed. After the daily stops it was headed for some town where an eve-

ning meeting of agriculturists was to be held.

Even the schoolchildren got their lesson from this campaign; not only a lesson on alfalfa, but on history and geographical subjects. It was a diversified program that the versatile speakers, who traveled with the alfalfa special, were able to offer at each stop; but, underlying every talk, whether it was to the boys and girls, or to the men and women who had grown old on the farm, there was the same lesson to be learned: "Fertilize the soil with brains."

The result of this campaign was that over 200,000 acres of land in the inland empire, never before in any kind of grass crops, were put into alfalfa the following year. Other farmers were quick to see the benefits received by those who tried it first, until today there is hardly a farm in this great agricultural section that does not contain at least a few acres of the wonder plant. Thousands of farms which had been deserted because of the soil, worn out from constant planting to one crop, did not yield returns of any sort, were reclaimed, rejuvenated, and the land given a value which it did not possess even in its earlier prime.

Having accomplished so much for the farmers of the Northwest, Professor Holden turned his eyes to the South. The state of Arkansas immediately invited his attention. The need here was similar to that of the inland empire—crop diversification. The farmers of Arkansas had been growing cotton for nearly forty years—growing it to sell for money to buy food for man and animal. The practice of this system had placed the state at the mercy of the North and East, both in buying and selling. The cotton crop was sold in 1913 for \$33,000,000. This amount and \$12,000,000 more were sent out of the state to buy foodstuffs which should have been produced on the Arkansas farms.

Professor Holden realized that it would be a tremendous undertaking to change a one-crop system of forty years' standing to a safe system of agriculture whereby the farmers of an entire state might be induced to raise their own feed and thus make cotton a cash crop. But the greater the odds, the greater the incentive with him, and he entered upon the work with enthusiasm.

With a staff of sixty men the campaign was carried on for a period of thirty-five days, approximately 1,500 meetings being held in forty-nine different counties, covering the entire cotton belt of the state. The speakers were not eloquent orators. They were men who had given their lives to the study of agricultural problems and knew their subjects from A to Z and back again. They pointed out to the farmer the folly of buying food and paying a big profit to someone else when he could just as well raise that food at home and save this big profit. Likewise they told him that if the farmer up North could raise grain and beef and pork and sell them to the Southern farmer at a profit on lands valued at from \$100 to \$200 an acre, the Southern farmer could make an even greater profit by raising these commodities for himself.

According to the Little Rock chamber of commerce this campaign added \$30,744,150 to the value of the agricultural products of Arkansas, a fact which is proved by government statistics. But there were other benefits of that campaign which are not so easily measured. This huge increase does not take into account the money saved and kept in the state by the farmer who raised his own food at home—money which in other years had gone out of the state, never to return. Nor does it take into account the fact that by raising his own food, the farmer enjoyed a better living than ever before.

Thus one by one the states of the Union are being covered by Professor Holden and his army of expert talent, the campaigns in each instance being pertinent to the direct needs of the people. They talk about soil improvement, crop increase, sanitation, better homes, better roads, "swat the fly," fruit and vegetable canning, and a multitude of other subjects—whatever, in fact, that will tend to the advancement of the health and home comfort for the farmer, his wife, his children, house servants and farm help.

## EGYPT'S OLD CIVILIZATION.

As early as 3800 B. C. Egypt is known to have first come under the rule of a single dynasty, but before that date stretch centuries of progress. When the Romans swept over Britain after Bonaparte's rebellion they destroyed villages of wigwams and reed built over circular excavations; when they came to Egypt the pyramids of Giza had been standing for nearly 30 centuries, and Caesar borrowed the Egyptian calendar, which was 13 centuries older than the pyramids.

# IN THE LIMELIGHT

## MACKAY'S GENEROUS GIFT



The first important contribution to the United States government from a private source to be devoted to the furtherance of wartime efficiency—one of the finest gifts of the kind, in fact, ever received by the government—was learned of when it was announced that Clarence H. Mackay and his mother, Mrs. John W. Mackay, who resides in Paris, have just made a joint gift of a completely equipped hospital base unit of 500 beds for service either in this country or abroad.

The hospital, which will be known as the Mackay unit, has already been accepted through the National Red Cross. Through the patriotic generosity of Mr. Mackay and his mother provision has been made for a staff of 22 surgeons, 75 nurses, 150 orderlies, and others necessary to operate such a unit.

Dr. Charles M. Peck, one of the surgical chiefs of Roosevelt hospital, Dr. James L. Russell has been made chief of surgical service of the unit and Dr. Rolfe Floyd is chief of medical service. Their respective surgical and medical staffs also have been chosen, together with oral surgeons, pathologists, Roentgenologists, ophthalmologists, and aurists, anesthetists, and a staff of nurses, which will be headed by Miss Mary L. Francis as chief nurse.

Although organized as the Mackay unit of the Roosevelt hospital, the unit will be known officially as "Red Cross Base hospital No. 15."

## APPEALS TO FARMERS

Farmers of America were appealed to by Secretary Houston to join in agricultural preparedness measures so the country may not be handicapped by food shortage in its efforts to meet the international crisis. Elimination of waste, conservation of surplus, and attainment of maximum crop returns were outlined as imperative for strengthening resources.

"Both for economic and patriotic reasons," the secretary said, "the American farmer should strive this year for the highest standard of efficiency in the production and conservation of food."

"Under the conditions in which this country now finds itself, it is important that everything practicable be done to increase the efficiency of agricultural activities during the coming season. It is desirable that throughout the country farmers confer among themselves on matters affecting the production of needed crops, and that they consult freely with county agents, state agricultural colleges and the department of agriculture."

The secretary's appeal was part of the campaign undertaken by the department of agriculture to mobilize the nation's agricultural resources.

Mr. Houston urged particularly that as a means of preventing "conspicuous production waste" of important staple cereals, proper attention be given to selection and safeguarding of seed for planting, the preparation of the land, and the care of the crop.



## GUARDS PUBLIC HEALTH



"After the war, what?" is the question which thrusts itself before many. What will flow from the maelstrom to affect the health of the world?

Dr. William C. Rucker, one of the assistant surgeon generals in the United States public health service, who has just won a Wellcome medal and money prize offered for the discussion of this subject by military surgeons of the United States, has told why various diseases have flourished at the lines of conflict; how the military sanatorium men met their tasks; the effect of the changed conditions upon the health of men and women, the soldier and home workers; the weakening of the "vicious chain" of intemperance, vice and pauperism; the care of the human wreckage; the hope for the future, and the need of watch against making this country a dumping ground for the left-overs.

"In this country we are interested in the health of Europe in peace and in war, because we have been forced to learn the interdependence between America and foreign nations. We must pay the price for the privilege of watching the tragedy. We know that we have drifted near to the maelstrom, and we know that unless we are very careful disease in Europe will mean disease in America. We have bulwarks in the immigration and quarantine stations. Sanitary education is advancing by leaps and bounds; the public knows the dangers of epidemic diseases and insists upon prompt action if an epidemic gets past quarantine."

## PLEASED AT BANKS' ACTION

The 12 Federal Reserve banks oversubscribed on 24 hours' notice a 90-day loan to the government of \$50,000,000 at the rate of 2 per cent a year.

The money was borrowed on 90-day treasury certificates of indebtedness to help tide over the government until June, when the great stream of income and internal revenue taxes will flow into the treasury. An additional \$50,000,000, it was announced, may be borrowed in the same manner before the close of the fiscal year.

Temporary financing of the government in this manner was made necessary by the depleted condition of the balance in the general fund of the treasury, reduced to approximately \$8,000,000 and facing a further reduction of \$25,000,000 when the government would issue a warrant for that amount in payment of the Danish West Indies.

The issue of certificates of indebtedness to run not longer than one year and to bear interest at a rate not exceeding 3 per cent has been authorized by congress up to \$300,000,000, and the recent issue is the first to be made under this authorization. In addition Secretary McAdoo has authority to issue \$474,000,000 in bonds for various purposes. "This is extremely gratifying," said Secretary McAdoo in announcing the action, "and shows not only a fine spirit on the part of the reserve banks, but is an additional demonstration of the usefulness of the new reserve system to the country."

